

1 **Amendments to the Claims**

2 **In the Claims:**

3 Please amend Claims 24, 50, 60, 61, and 88 as follows.

4 1-23. (Canceled)

5 24. (Currently Amended) A videoendoscopic surgery trainer for the practice of  
6 videoendoscopic surgery techniques, the trainer comprising:

7 (a) a housing defining a practice volume, the housing defining an opening through  
8 which a plurality of practice surgical tools are introduced into the practice volume;

9 (b) a simulated laparoscope comprising:

10 (i) a handle having a size and shape simulating a handle of a medical  
11 laparoscope;

12 (ii) an elongate member extending from a distal portion of the handle into  
13 the practice volume;

14 (iii) a digital video camera coupled to a distal end of the elongate member,  
15 such that manually changing a position of the proximal end of the elongate member results in a  
16 change in a position of the digital video camera, the elongate member movably supporting the digital  
17 video camera externally of the elongate member, the digital camera being thus disposed within the  
18 practice volume, the digital video camera being configured to capture a plurality of frames per  
19 second, such that the digital video camera can provide a digital video feed of at least a portion of the  
20 practice volume; and

21 (iv) a data cable having a proximal end and a distal end, the distal end being  
22 logically coupled to the digital video camera, the proximal end being configured to logically couple  
23 to at least one of a display and a computing device, a first portion of the data cable extending from  
24 the digital video camera and the handle being disposed inside the elongate member, a second portion  
25 of the data cable extending from the handle to the proximal end of the data cable, the second portion  
26 of the data cable extending outwardly and away from a proximal portion of the handle, the data cable  
27 being configured to be coupled to a computing device; and

28 (c) a support structure for movably supporting the simulated laparoscope relative  
29 to the housing, the support structure being coupled to an upper portion of the housing, the support  
30 structure comprising:

1 (i) a first adjustable bracket configured to engage the elongate member,  
2 such that an amount of the elongate member disposed within the practice volume can be increased  
3 and decreased as desired;

4 (ii) a second adjustable bracket configured to movably support the elongate  
5 structure, to enable a position of the digital video camera coupled to the distal end of the elongate  
6 member to be tilted; and

7 (iii) a support member configured to support the second adjustable bracket  
8 and to pivotably engage the housing, the support member having a proximal end disposed inside the  
9 practice volume, to enable a position of the digital video camera coupled to the distal end of the  
10 elongate member to be panned;

11 wherein the simulated laparoscope and support structure are disposed relative to the  
12 opening such that a student positioned at a front of the housing can use his hands to manipulate the  
13 simulated laparoscope, the support structure, and the plurality of practice surgical tools.

14 25-48. (Canceled)

15 49. (Previously Presented) The videoendoscopic surgery trainer of Claim 24, wherein the  
16 digital video camera is substantially larger than a smallest incision that would be required to insert a  
17 laparoscope into a body of a patient.

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1           50. (Currently Amended) A videoendoscopic surgical trainer for practicing videoendoscopic  
2 surgical techniques, comprising:

3                   (a)     a housing defining a practice volume, the housing defining an upper opening  
4 through which a plurality of practice surgical tools are introduced into the practice volume;

5                   (b)     a simulated laparoscope comprising:

6                           (i)     a handle having a size and shape simulating a handle of a medical  
7 laparoscope;

8                           (ii)    a hollow elongate member extending from a distal portion of the handle  
9 into the practice volume;

10                          (iii)   a digital imaging sensor configured to obtain an image of at least a  
11 portion of the practice volume and to output a corresponding signal that can be used to generate a  
12 video signal to drive a display, the digital imaging sensor being physically coupled to a distal end of  
13 the elongate member, such that manually changing a position of a proximal end of the elongate  
14 member results in a change in a position of the digital imaging sensor, the elongate member movably  
15 supporting the digital imaging sensor externally of the elongate member; and

16                          (iv)    a data cable having a proximal end and a distal end, the distal end being  
17 logically coupled to the digital imaging sensor, the proximal end being configured to logically couple  
18 to at least one of a display and a computing device, a first portion of the data cable extending from  
19 the digital imaging sensor and the handle being disposed inside the elongate member, a second  
20 portion of the data cable extending from the handle to the proximal end of the data cable, the second  
21 portion of the data cable extending outwardly and away from a proximal portion of the handle; and

22                   (c)     a support member configured to pivotally engage an upper portion of the  
23 housing, thereby enabling the digital imaging sensor to be selectively positioned within the practice  
24 volume to achieve a panning motion, and to positionably support the boom, thereby enabling the  
25 digital imaging sensor to be further selectively positioned within the practice volume;

26                   wherein the simulated laparoscope and support structure are disposed relative to the  
27 opening such that a student positioned at a front of the housing can use his hands to manipulate the  
28 simulated laparoscope, the support structure, and the plurality of practice surgical tools.

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1           51. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the  
2 support member is further configured to slidably engage the elongate member, such that an extent by  
3 which the elongate member extends within the practice volume is selectively variable by sliding the  
4 elongate member relative to the support member.

5           52. (Previously Presented) The videoendoscopic surgical trainer of Claim 51, wherein the  
6 elongate member extends from the support member into the practice volume at a substantially non-  
7 normal angle.

8           53. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the  
9 support member is configured to enable the digital imaging sensor to be moved in a tilting motion.

10          54. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein said  
11 support member comprises:

12               (a)     a first adjustable member configured to enable an extent to which the elongate  
13 member extends within the practice volume to be selectively controlled; and

14               (b)     a second adjustable member configured to enable a position of the digital  
15 imaging sensor within the practice volume to be selectively changed, without also changing the  
16 extent to which the elongate member extends into the practice volume.

17          55. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the  
18 support member comprises a first portion and a second portion, such that the first portion pivotally  
19 engages the second portion, thereby enabling a position of the distal end of the support member  
20 within the practice volume to be selectively adjustable.

21          56. (Canceled)

22          57. (Canceled)

23          58. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the  
24 digital imaging sensor is capable of capturing at least thirty frames per second.

25          59. (Previously Presented) The videoendoscopic surgical trainer of Claim 50, wherein the  
26 digital imaging sensor comprises a web camera.

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1           60. (Currently Amended) A portable videoendoscopic surgical trainer for practicing  
2 videoendoscopic surgical techniques, comprising:

3           (a) a housing defining a practice volume, the housing comprising a collapsible  
4 frame, the frame defining a plurality of side openings facilitating access to the practice volume, and  
5 an upper opening configured to accommodate a plurality of surgical tools;

6           (b) a simulated laparoscope comprising:

7               (i) a handle having a size and shape simulating a handle of a medical  
8 laparoscope;

9               (ii) an elongate member extending from a distal portion of the handle into  
10 the practice volume;

11               (iii) a digital video camera coupled to a distal end of the elongate member,  
12 such that manually changing a position of the proximal end of the elongate member results in a  
13 change in a position of the digital video camera, the elongate member movably supporting the digital  
14 video camera externally of the elongate member, the digital camera being thus disposed within the  
15 practice volume, the digital video camera producing a digital video signal conveying images of at  
16 least a portion of the practice volume, the digital video camera being movable within the practice  
17 volume, such that a position of the digital video camera can be changed to obtain an image of a  
18 different portion of the practice volume, wherein the digital video camera is substantially larger than  
19 a smallest incision that would be required to insert a laparoscope into a body of a patient; and

20               (iv) a data cable having a proximal end and a distal end, the distal end being  
21 logically coupled to the digital video camera, the proximal end being configured to logically couple  
22 to at least one of a display and a computing device, a first portion of the data cable extending from  
23 the digital video camera and the handle being disposed inside the elongate member, a second portion  
24 of the data cable extending from the handle to the proximal end of the data cable, the second portion  
25 of the data cable extending outwardly and away from a proximal portion of the handle, the data cable  
26 being configured to be coupled to a computing device; and

27           (c) a support structure movably supporting the digital video camera without  
28 substantially enveloping the digital video camera, thus enabling the digital video camera to be  
29 movably positioned within the practice volume to change a position of the digital video camera so as  
30 to obtain an image of a different portion of the practice volume;

1            wherein the simulated laparoscope and support structure are disposed relative to the  
2 opening such that a student positioned at a front of the housing can use his hands to manipulate the  
3 simulated laparoscope, the support structure, and the plurality of practice surgical tools.

4            61. (Currently Amended) A videoendoscopic surgical trainer for practicing videoendoscopic  
5 surgical techniques, comprising:

6            (a)     a housing defining a practice volume and an upper opening through which a  
7 plurality of practice surgical tools are introduced into the practice volume;

8            (b)     a simulated laparoscope comprising:

9                    (i)     a handle having a size and shape simulating a handle of a medical  
10 laparoscope;

11                    (ii)    an elongate member extending from a distal portion of the handle into  
12 the practice volume;

13                    (iii)   a digital video camera disposed within the practice volume, the digital  
14 video camera producing a digital video signal conveying images of at least a portion of the practice  
15 volume;

16                    (iv)    a data cable having a proximal end and a distal end, the distal end being  
17 logically coupled to the digital video camera, the proximal end being configured to logically couple  
18 to at least one of a display and a computing device, a first portion of the data cable extending between  
19 a location inside the practice volume proximate the digital video camera and the handle being  
20 disposed inside the elongate member, a second portion of the data cable extending from the handle to  
21 the proximal end of the data cable, the second portion of the data cable extending outwardly and  
22 away from a proximal portion of the handle, the data cable being configured to be coupled to a  
23 computing device; and

24                    (v)     a support structure disposed within the practice volume, the support  
25 structure being supported by a base of the housing, the digital video camera being coupled to and  
26 supported by the support structure, the support structure enabling the digital video camera to be  
27 movably positioned within the practice volume to change a position of the digital video camera so as  
28 to obtain an image of a different portion of the practice volume, the support structure movably  
29 supporting the digital video camera without substantially enveloping the digital video camera;

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1 wherein the simulated laparoscope and support structure are disposed relative to the  
2 opening such that a student positioned at a front of the housing can use his hands to manipulate the  
3 simulated laparoscope, the support structure, and the plurality of practice surgical tools.

4 62. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the  
5 digital video camera is substantially larger than a smallest incision that would be required to insert a  
6 laparoscope into a body of a patient.

7 63. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the  
8 support structure includes at least one of a ball head that enables the digital video camera to pan and  
9 tilt, and a pan and tilt head.

10 64.-69. (Canceled)

11 70. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the  
12 housing comprises a replaceable top panel.

13 71. (Previously Presented) The videoendoscopic surgical trainer of Claim 61, wherein the  
14 digital video camera comprises a web camera.

15 72.-87. (Canceled)

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1           88. (Currently Amended) A method for using an imaging device to enhance a session of  
2 endoscopic skills training, comprising the steps of:

3                   (a)     introducing at least one exercise object into a practice volume of a surgical  
4 trainer that includes a simulated laparoscope, the simulated laparoscope comprising:

5                           (i)     a handle having a size and shape simulating a handle of a medical  
6 laparoscope;

7                           (ii)    an elongate member extending from a distal portion of the handle into  
8 the practice volume;

9                           (iii)   a digital imaging device coupled to a distal end of the elongate member  
10 and disposed within the practice volume, the digital imaging device producing a digital video signal  
11 conveying images of at least a portion of the practice volume; and

12                           (iv)   a data cable having a proximal end and a distal end, the distal end being  
13 logically coupled to the digital imaging device, the proximal end being configured to logically couple  
14 to at least one of a display and a computing device, a first portion of the data cable extending between  
15 a location inside the practice volume proximate the digital imaging device and the handle being  
16 disposed inside the elongate member, a second portion of the data cable extending from the handle to  
17 the proximal end of the data cable, the second portion of the data cable extending outwardly and  
18 away from a proximal portion of the handle, the data cable being configured to be coupled to a  
19 computing device;

20                   (b)     using the digital imaging device to produce a signal conveying images of the at  
21 least one exercise object from a first position within the surgical trainer while using a surgical tool to  
22 manipulate the at least one exercise object, wherein the digital imaging device is substantially larger  
23 than a distal end of a conventional laparoscope, such that the digital imaging device is too large to  
24 pass through an incision used to introduce such a conventional laparoscope into a patient;

25                   (c)     displaying the images of the at least one exercise object conveyed by the signal  
26 in regard to the first position;

27                   (d)     manually adjusting a first bracket and a second bracket in order to manipulate  
28 the elongate member that movably supports the digital imaging device at the distal end of the  
29 elongate member, so that the imaging device produces a signal conveying images of the at least one  
30 exercise object from a second position within the surgical trainer; and



1 (e) displaying the images of the at least one exercise object conveyed by the signal  
2 in regard to the second position, such that the simulated laparoscope and the at least two brackets are  
3 disposed relative to the opening such that a student positioned at a front of the surgical trainer can use  
4 his hands to manipulate the simulated laparoscope, the at least two brackets, and the surgical tool.

5 89. (Previously Presented) The method of Claim 88, wherein the step of manipulating the  
6 boom further comprises the step of locking the elongate member once the imaging device is  
7 positioned to produce the signal conveying images of the simulated anatomical structure from the  
8 second position, to prevent undesired further movement of the imaging device.

9 90. (Previously Presented) The method of Claim 88, further comprising the step of  
10 transmitting data over a network that can be used to display images collected by the imaging device.

11 91. (Previously Presented) The method of Claim 88, further comprising the step of storing  
12 data that are usable to display images collected by the imaging device after the session is complete.

13 92. (Previously Presented) The method of Claim 88, wherein the step of manipulating the  
14 elongate member further comprises at least one of the steps of:

15 (a) zooming the imaging device closer to the at least one exercise object, to move  
16 the imaging device from the first position to the second position;

17 (b) zooming the imaging device farther from the at least one exercise object, to  
18 move the imaging device from the first position to the second position;

19 (c) panning the imaging device to move the imaging device from the first position  
20 to the second position; and

21 (d) tilting the imaging device to move the imaging device from the first position to  
22 the second position.

23 93. (Canceled)